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EXPRESS MAIL LABEL NO.: EV 333487059 US

PATENT

Attorney Docket No. 29191.704.201

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application)	<u>PATENT APPLICATION</u>
)	
Inventor(s): John T. STULTS et al.)	
)	Art Unit: 2881
Application No.: 10/681,742)	
)	Examiner: James J. Leybourne
Filed: October 7, 2003)	
)	
Title: Methods and apparatus for)	
self-optimization of electrospray)	
ionization devices)	
)	

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97

Sir:

Applicants hereby submit an Information Disclosure Statement along with attached form(s) PTO/SB/08. A copy of each listed publication is being submitted herewith, along with a concise explanation of information in a foreign language, if any, pursuant to 37 C.F.R. §1.97-1.98.

Applicants respectfully request that the listed information be considered by the Examiner and be made of record in the above-identified application. Applicants further request that the Examiner initial and return the attached form(s) PTO/SB/08 in accordance with MPEP §609.

Applicants reserves the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement is not intended to represent that a search has been made or that the information cited in the statement is, or is considered to be, prior art or material to patentability as defined in §1.56.

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Attorney Docket No. 29191.704.201

- ☐ This statement qualifies under 37 C.F.R. §1.97, subsection (b) because:
- ☐ (1) It is being filed within 3 months of the application filing date and is other than a continued prosecution application under § 1.53(d)
-- OR --
 - ☐ (2) It is being filed within 3 months of entry of a national stage
-- OR --
 - ☐ (3) It is being filed before the mail date of the first Office Action on the merits
-- OR --
 - ☐ (4) It is being filed before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114.
- ☒ 37 C.F.R. §1.97(c). If this statement is being filed after the latest of: (1) three months beyond the filing date of a national application; (2) three months beyond the date of entry of the national stage as set forth in §1.491 in an international application; or (3) the mailing date of a first Office action on the merits, but before the mailing date of the earlier of a final office action under §1.113 or a notice of allowance under §1.311, then:
- ☐ a certification as specified in §1.97(e) is provided below; or
 - ☒ a fee of \$180.00 as set forth in §1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.
- ☐ 37 C.F.R. §1.97(d). If this statement is being filed after the mailing date of the earlier of a final office action under §1.113 or a notice of allowance under §1.311, but before payment of the issue fee, then:
- A. a certification as specified in §1.97(e) is completed below; and
 - B. a petition under 37 C.F.R. §1.97(d) requesting consideration of this statement is submitted herewith; **and**
 - C. a fee of \$130.00 as set forth in §1.17(i)(1) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.
- ☐ Copies of each of the references listed on the attached Form PTO/SB/08 are enclosed herewith.
- ☒ Copies of references listed on the attached Form PTO/SB/08 are enclosed herewith EXCEPT THAT:
- ☐ In view of the voluminous nature of references, and the likelihood that these references are available to the Examiner in the file history of the parent application (Serial No.), copies are not enclosed herewith.
 - ☐ If any of the foregoing publications are not available to the Examiner, Applicant will endeavor to supply copies at the Examiner's request.

☒ Copies of only foreign patent documents and non-patent literature are enclosed in accordance with 37 CFR 1.98 (a)(2). (The U.S. patents and each U.S. patent application publication listed on the attached Form PTO-1449 are not enclosed because this U.S. patent application was filed after June 30, 2003 or this international application has entered the national stage under 35 USC §371 after June 30, 2003 (see USPTO waiver of requirement under 37 CFR 1.98 (a)(2)(i)).

☐ There are no listed references which are not in the English language.

☐ The relevance of those listed references which are not in the English language is as follows:

☐ Attached are copies of search report(s) from corresponding patent application(s), submitted in accordance with MPEP 609 D in support of the attached certification under 37 CFR 1.97(e)(1).

☐ Attached are the following non-published pending patent applications which may be deemed relevant.

☒ *Fee Authorization.* The Commissioner is hereby authorized to charge the above-referenced fees of \$180.00 and charge any additional fees or credit any overpayment associated with this communication to Deposit Account No. 23-2415 (Docket No.29191.704.201).

Respectfully submitted,

WILSON SONSINI GOODRICH & ROSATI

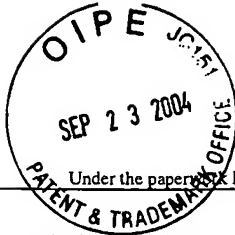
Dated: _____

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By: _____

U.P. Peter Eng, Reg. No. 39,666

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10/681,742
				Filing Date	10/07/2003
				First Named Inventor	John T. STULTS
				Art Unit	2881
				Examiner Name	Leybourne
Sheet	1	of	4	Attorney Docket Number	29191.704.201

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-2002/0182649	12/05/2002	Weinberger et al.	
		US-2003/0213918	11/20/2003	Kameoka et al.	
		US-2003/0215855	11/20/2003	Dubrow et al.	
		US-2004/0075050	04/22/2004	Rossier et al.	
		US-4,963,736	10/16/1990	Douglas et al.	
		US-6,416,642	07/09/2002	Alajoki et al.	
		US-6,627,076	09/30/2003	Griffiths	
		US-6,744,046	06/01/2004	Valaskovic et al.	
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
		WO 03/004160	01/16/2003	Diagnoswiss SA		
		WO 03/019172	03/06/2003	Diagnoswiss S.A.		

Examiner Signature		Date Considered	
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				Examiner Name	Leybourne	
Sheet	2	of	4	Attorney Docket Number		29191.704.201

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		AURIOLA, Seppo et al., "Enhancement of sample loadings for the analysis of oligosaccharides isolated from <i>Pseudomonas aeruginosa</i> using transient isotachopheresis – electrospray – mass spectrometry". <i>Electrophoresis</i> (1998), 19:2665-2676.	
		BANKS, J. Fred, "Recent advances in capillary electrophoresis/electrospray/mass spectrometry". <i>Electrophoresis</i> (1997), 18:2255-2266.	
		BANKS, JR., J. Fred et al., "Detection of fast capillary electrophoresis peptide and protein separations using electrospray ionization with a time-of-flight mass spectrometer". <i>Anal. Chem.</i> (May 1, 1996), 68(9):1480-1485.	
		CHANG, Yan Zin et al., "Sheathless capillary electrophoresis/electrospray mass spectrometry using a carbon-coated fused-silica capillary". <i>Anal. Chem.</i> (February 1, 2000), 72(3):626-630.	
		CHEN, Yet-Ran et al., "A low-flow CE/electrospray ionization MS interface for capillary zone electrophoresis, large-volume sample stacking, and micellar electrokinetic chromatography". <i>Anal. Chem.</i> (February 1, 2003), 75(3):503-508.	
		CHIEN, Ring-Ling et al., "Sample stacking of an extremely large injection volume in high-performance capillary electrophoresis". <i>Anal. Chem.</i> (1992), 64:1046-1050.	
		DING, Jianmei et al., "Advances in CE/MS: recent developments in interfaces and applications". <i>Analytical Chemistry News & Features</i> (June 1, 1999), 378A-385A.	
		FIGEYS, Daniel et al., "High sensitivity analysis of proteins and peptides by capillary electrophoresis-tandem mass spectrometry: recent developments in technology and applications". <i>Electrophoresis</i> , (1998), 19:885-892.	
		FIGEYS, Daniel et al., "Protein identification by solid phase microextraction-capillary zone electrophoresis-microelectrospray-tandem mass spectrometry". <i>Nature Biotechnology</i> (November 1996), 14:1579-1583.	
		FORET, Frantisek et al., "Trace analysis of proteins by capillary zone electrophoresis with on-column transient isotachopheretic preconcentration". <i>Electrophoresis</i> (1993), 14:417-428.	

Examiner signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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				Examiner Name	Leybourne
Sheet	3	of	4	Attorney Docket Number	29191.704.201

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		GUO, Xu et al., "Analysis of metallonhioneins by means of capillary electrophoresis coupled to electrospray mass spectrometry with sheathless interfacing" <i>Rapid Commun. Mass Spectrom.</i> (1999), 13:500-507.	
		JANINI, George M. et al., "A sheathless nanoflow electrospray interface for on-line capillary electrophoresis mass spectrometry". <i>Anal. Chem.</i> (2003), 75:1615-1619.	
		JOHANSSON, I. Monika et al., "Capillary electrophoresis-atmospheric pressure ionization mass spectrometry for the characterization of peptides". <i>Journal of chromatography</i> (1991), 554:311-327.	
		KAISER, Thorsten et al., "Capillary electrophoresis coupled to mass spectrometry to establish polypeptide patterns in dialysis fluids". <i>Journal of Chromatography A</i> (2003) 1013:157-171.	
		KELLY, John F. et al., "Capillary zone electrophoresis-electrospray mass spectrometry at submicroliter flow rates: practical considerations and analytical performance". <i>Anal. Chem.</i> (1997), 69:51-60.	
		KIRBY, Daniel P. et al., "A CE/ESI-MS interface for stable, low-flow operation". <i>Anal. Chem.</i> (1996), 68:4451-4457.	
		LARSSON, Marita et al., "Transient isotachopheresis for sensitivity enhancement in capillary electrophoresis-mass spectrometry for peptide analysis". <i>Electrophoresis</i> (2000), 21:2859-2865.	
		LEE, Edgar D. et al., "On-line capillary zone electrophoresis-ion spray tandem mass spectrometry for the determination of dynorphins". <i>Journal of Chromatography</i> (1988), 458:313-321.	
		MOINI, Mehdi, "Design and performance of a universal sheathless capillary electrophoresis to mass spectrometry interface using a split-flow technique". <i>Anal. Chem.</i> (2001), 73:3497-3501.	
		NEUSUB, Christian et al., "A robust approach for the analysis of peptides in the low femtomole range by capillary electrophoresis-tandem mass spectrometry". <i>Electrophoresis</i> (2002), 23:3149-3159.	

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Sheet	4	of	4	Attorney Docket Number	29191.704.201

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		OLIVARES, Jose A. et al., "On-line mass spectrometric detection for capillary zone electrophoresis". <i>Anal. Chem.</i> (1987), 59:1230-1232.	
		ROHDE, E. et al., "Comparison of protein mixtures in aqueous humor by membrane preconcentration - capillary electrophoresis - mass spectrometry". <i>Electrophoresis</i> (1998), 19:2361-2370.	
		SANZ-NEBOT, Victoria et al., "Capillary electrophoresis coupled to time of flight-mass spectrometry of therapeutic peptide hormones". <i>Electrophoresis</i> (2003), 24:883-891.	
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		SMITH, Richard D. et al., "New developments in biochemical mass spectrometry : electrospray ionization". <i>Anal. Chem.</i> (1990), 62:882-899.	
		STROINK, Thom et al., "On-line coupling of size exclusion and capillary zone electrophoresis via a reversed-phase C18 trapping column for the analysis of structurally related enkephalines in cerebrospinal fluid". <i>Electrophoresis</i> (2003), 24:897-903.	
		TOMLINSON, Andy J. et al., "Systematic development of on-line membrane preconcentration-capillary electrophoresis-mass spectrometry for the analysis of peptide mixtures". <i>Journal of Capillary Electrophoresis</i> (September/October 1995), 2(5):225-233.	
		VILLANUEVA, Josep et al., "Serum peptide profiling by magnetic particle-assisted, automated sample processing and MALDI-TOF mass spectrometry". <i>Anal. Chem.</i> (March 15, 2004), 76(6):1560-1570.	
		VON BROCKE, Alexander et al., "Recent advances in capillary electrophoresis/electrospray-mass spectrometry". <i>Electrophoresis</i> (2001), 22:1251-1266.	
		WHITT, Jacob T. et al., "Capillary electrophoresis to mass spectrometry interface using a porous junction". <i>Anal. Chem.</i> (May 1, 2003), 75(9):2188-2191.	
		WITKE, Stefan et al., "Determination of peptides and proteins in human urine with capillary electrophoresis-mass spectrometry, a suitable tool for the establishment of new diagnostic markers". <i>Journal of Chromatography A</i> (2003), 1013:173-181.	
		ZHU, Xiaofeng et al., "A colloidal graphite-coated emitter for sheathless capillary electrophoresis/nano electrospray ionization mass spectrometry". <i>Anal. Chem.</i> (2002), 74:5405-5409.	

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